

REMARKS

Minor changes have been made in several claims to improve the form of their recitals without altering their scope. Since this Amendment does not increase either the total number of claims or the number of independent claims, no additional fee is necessary.

Claims 21 (independent), 24, 27, 30, 49 and 50 (dependent on 21), 44 (independent), 45 and 46 (dependent on 44), 47 (independent), 48 (dependent on 47), 51 (independent), 52 - 54 (dependent on 51), 58 (independent), 59 - 61 (dependent on 58), 63 (independent), 64, 65 and 66 (dependent on 63) are in the application. All these claims are directed to optical recording media.

In the Office Action, claims 51 - 54 and 58 - 61 have been rejected under 35 U.S.C. §103(a) as unpatentable over Yamada et al. EP 1058249 (Yamada et al. EP '249), newly cited, in view of Mizuno et al. EP 1047056 (Mizuno et al. EP '056). Claims 44 - 49 have been rejected under §103(a) as unpatentable over Osakabe '763, newly cited, in view of Ando et al. '175 and Suzuki et al. '780. Claims 21, 24, 27, 30, 49 - 54, 58 - 61 and 63 - 66 have been rejected under 35 U.S.C. §103(a) as unpatentable over Yamada et al. EP 0717404 (Yamada et al. EP '404) or Yamada et al. EP 0735158 (Yamada et al. EP '158) in view of Yamada et al. EP '249, newly cited, and further in view of Mizuno et al. EP '056. No claim has been allowed.

Claims 51 - 54 and 58 - 61

With reference to the rejection of independent claim 51 on Yamada et al. EP '249 in view of Mizuno et al. EP '056, it may initially be noted that the claimed invention is an optical recording medium having a recording layer that consists essentially of Ag, In, Sb, Te and Ge in specified narrow ranges of at.% and a metal/alloy layer that includes Al and an additive content in a specified range of wt.% selected from Ta, Ti, Cr and Si. The rejection relies on Yamada et al. EP '249 for the recording layer composition and on Mizuno et al. EP '056 for the metal/alloy layer composition.

As stated, the recording layer of applicants' claimed recording medium is a Ge-containing composition. The recording layer composition described in Yamada et al. EP '249 compares with applicants' claimed combination as follows:

	<u>Applicants'</u> <u>Claim 51</u>	<u>Yamada et al.</u> <u>EP '249</u>
Ag	0.1 - 7 at. %	>0.10 at. %
In	2 - 10	2 - 12
Sb	64 - 92	55 - 70
Te	5 - 26	22 - 32
Ge	0.3 - 3	up to 5*

*or other additive selected for Group IIIB, IVB and VB elements, of which B, C, N, Si, Ge and S are mentioned as preferred.

However, the only specific composition given by Yamada et al. EP '249 that contains any Ge is Example 6, in which the Te content is 27 at.%, outside and above applicants' claimed range.

Table 1-2 at paragraph [0194] in applicants' specification (citations herein are to Pub. No. 2003/0043712) evidences the criticality of the 26 at.% upper limit of Te. Of the 17 Examples and Comparative Examples there listed, only three – Comparative Examples 4 (28.1 at.% Te), 6 (27.5 at.% Te) and 7 (26.6 at.% Te) – contain Te above the 26 at.% upper limit of claim 51, and in these three “an overwrite could not be achieved even though the first recording was feasible” (see [0188]). All the other Examples and Comparative Examples, having Te within the 26 at.% upper limit, achieved at least some hundreds of overwrite cycles, and all the Examples having a recording layer composition within the ranges of claim 51 achieved thousands of overwrite cycles.

The Office Action asserts that it would have been obvious to modify Example 6 of Yamada et al. EP '249 by decreasing the amount of Te by at least 1 at.% based on the broad ranges set forth in the reference, and that the data in Yamada et al. EP '249 regarding octa-speed recording for Example 6 and for Examples 3 and 8 (with lower Te and higher Sb) “refute the arguments about small changes in the Te amount having a large effect” on performance. Applicants respectfully disagree. The data given in Yamada et al. EP '249 were obtained only by overwrite operations at 4.8 m/sec and 9.6 m/sec (see Yamada et al. EP '249 at paragraph [0088]). In contrast, in applicants' Examples and Comparative Examples, “During the measurements, linear velocities for the data recording suitable for respective recording media were selected ranging from 9 m/sec to 30 m/sec.” [0186].

An important concern of the present invention is to enable rewriting over the latter range, not

merely at the lower end of it [0055]. Applicants' tests demonstrate the criticality of the Te upper limit for their range of concern, and that showing is not negated by the Yamada et al. EP '249 tests restricted to the lowest part of that range. Such criticality would not have been obvious or expected from Yamada et al. EP '249.

Mizuno et al. EP '056, cited only for reflective (metal/alloy) layer composition, adds nothing to Yamada et al. EP '249 respecting recording layer composition.

It is therefore submitted that the recital of recording layer composition, defining an Ag-In-Sb-Te-Ge composition with an upper limit of 26 at.% Te, distinguishes claims 51-54 patentably over Yamada et al. EP '249 and Mizuno et al. EP '056, however combined.

Claims 58 - 61 are submitted to distinguish patentably in like manner over Yamada et al. EP '249 in view of Mizuno et al. EP '056, because independent claim 58 is expressly limited to the same recording layer composition as claim 51, including the 26 at.% upper limit for Te. Claims 58 - 61 differ from claims 51 - 54 with respect to the metal/alloy layer composition (which, in claims 58 - 61, is a silver-based layer), but again, whatever Mizuno et al. EP '056 may be said to show respecting the metal/alloy layer of claims 58 - 61 does not supply what is lacking in Yamada et al. EP '249 as to the composition of the recording layer.

Claims 51 - 54 and 58 - 61, as noted, have also been rejected under §103(a) as unpatentable over Yamada et al. EP '404 or Yamada et al. EP '158 in view of Yamada et al. EP '249 and Mizuno et al. EP '056. Applicants respectfully submit, however, that Yamada et al. EP '404 and Yamada et al. EP '158 are at most merely cumulative to Yamada et al. EP '249 with respect to the recording layer composition. Each of Yamada et al. EP '404 and Yamada et al. EP '158 describes recording layer compositions containing Ag, In, Sb and Te (both permitting Te >> 26 at.%) and states that any of numerous other specified elements (one of which, in EP '404 but not in EP '158, is Ge, unquantified) may be added thereto. Unlike Yamada et al. EP '249, however, neither Yamada et al. EP '404 nor Yamada et al. EP '158 sets forth any specific composition consisting essentially of Ag, In, Sb, Te and Ge at any levels. Further, the test data in Yamada et al. EP '404 and Yamada et al. EP '158 were obtained at linear velocities below 9 m/sec or greater. Therefore, these references are not seen to add anything to Yamada et al. EP '249 and Mizuno et al. EP '056, discussed above.

Claims 44 - 48

Turning to the rejection of claims 44 - 48 as unpatentable over Osakabe '763 in view of Ando et al. '175 and Suzuki '780, applicants respectfully direct attention to the holding, in numbered section 1 on page 2 of the Office Action dated March 22, 2007, that "the subject matter of claims 44, 47 and those dependent upon them are accorded the date 03/01/2001 (filing date of JP 0005244)" and to the Statement Concerning Common Ownership attached hereto (p. 9 of this response).

Suzuki '780 issued September 16, 2003, on a U.S. patent application filed December 21, 2000, and published February 20, 2003. Since the present application has a U.S. filing date of January 9, 2002, Suzuki '780 is a "§102(e)/§103(a)" reference and is therefore overcome, under 35 U.S.C. §103(c), by the attached Statement Concerning Common Ownership. It follows that the §103(a) rejection of claims 44 - 48 on Osakabe '763 in view of Ando et al. '175 and Suzuki '780 cannot be maintained. Since this is the only ground of rejection of claims 44 - 48, applicants submit that the latter claims should be allowed.

While Suzuki '780 claims the priority benefit of JP 11-366806, filed in Japan on December 24, 1999, that Japanese application was published in Japan on July 6, 2001 (as JP2001-184650A), less than a year before the present applicants' U.S. filing date and later than the March 1, 2001, date of invention to which present claims 44 - 48 are entitled. Hence, the publication of the Japanese counter-part of Suzuki '780 would not be citable as a reference against present claims 44 - 48.

In the outstanding Office Action, claim 49 is included with claims 44 - 48 as being subject to the ground of rejection just discussed. Claim 49, however, is dependent on claim 21, not on claim 44 or 47. It is therefore believed that this ground of rejection is inapposite to claim 49.

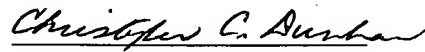
Claims 21, 24, 27, 30, 49, 50 and 63 - 66

Each of claims 21, 24, 27, 30, 49, 50 and 63 - 66 has been rejected (like claims 51 - 54 and 58 - 61) under §103(a) as unpatentable over Yamada et al. EP '404 or Yamada et al. EP '158 in view of Yamada et al. EP '249 and Mizuno et al. EP '056. Both of the independent claims (21 and 63) in this group recite the same features of recording layer composition as claims 51 and 58. Therefore, claims 21 and 63 are submitted to distinguish patentably over the asserted combination of references in the

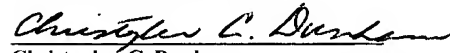
same manner as claims 51 and 58, discussed above. Claims 24, 27, 30, 49 and 50, dependent on claim 21, and claims 64 - 66, dependent on claim 63, are believed allowable therewith.

For the foregoing reasons, it is believed that this application is now in condition for allowance. Favorable action thereon is accordingly courteously requested.

Respectfully,


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